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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,351	07/11/2003	Shinjiro Umeya	09792909-5652	6730
26263	7590	07/28/2005	EXAMINER	
SONNENSCHN NATH & ROSENTHAL LLP			CRUZ, MAGDA	
P.O. BOX 061080			ART UNIT	
WACKER DRIVE STATION, SEARS TOWER			PAPER NUMBER	
CHICAGO, IL 60606-1080			2851	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/618,351

Applicant(s)

UMEYA ET AL.

Examiner

Magda Cruz

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 1-12 and 14-45 is/are allowed.
 6) ☒ Claim(s) 13 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☒ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 07/11/2002. It is noted, however, that applicant has not filed a certified copy of the JP2002-203179 application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "scanning means" (claims 16-17), the "spatial light modulator" (claims 15-17, 20, 27-28 and 41-45), the "discharge tube" (claims 20 and 23) and the "liquid crystal modulator" (claims 18, 21 and 24) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

4. The disclosure is objected to because of the following informalities: on page 24, lines 4 and 7, a space should be inserted between "λ" and "others"; i.e. "λothers" should be written - - λ others - - .

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gnaedig et al.

Gnaedig et al. (US Patent Number 6,313,931 B1) discloses a method for manufacturing a screen for image display apparatus (column 7, lines 31-32), the method comprising forming a reflective holographic screen (column 8, line 32; Figure 10, element 102) using light beams of primary colors that decide a color reproducing wavelength in an image projector (column 8, lines 38-41), as object light and reference light.

Gnaedig et al. teaches the salient features of the present invention as explained above, except a reflection wavelength characteristic corresponding to the color reproducing wavelength of the image projector. However, Gnaedig et al. discloses reflective holographic screen, which selectively reflects the wavelengths (column 7, lines 24-26). Therefore, Gnaedig et al. provides a reflection wavelength that corresponds to a specific color.

Allowable Subject Matter

7. Claims 1-12 and 14-45 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

- a. Regarding claim 1, the prior art or record neither shows nor suggests a screen for an image display apparatus comprising a light control layer having a diffuse image forming function of causing diffuse reflection of image display light projected via projection image forming means and thus forming an image, and a reflection wavelength selection function of selectively reflecting light of the wavelength range of the image display light and transmitting light of the other wavelength ranges.
- b. Regarding claim 14, the prior art or record neither shows nor suggests a method for manufacturing a screen for an image display apparatus comprising applying a material prepared by mixing plural types of toner particles onto a projection surface, thus providing a reflection wavelength characteristic corresponding to a color reproducing wavelength of an image projector.
- c. Regarding claim 15, the prior art or record neither shows nor suggests an image display apparatus wherein the screen has a higher reflectance for the primary color light than for the peripheral light and a lower absorptivity for the primary color light than for the peripheral light.
- d. Regarding claim 45, the prior art or record neither shows nor suggests an image display apparatus wherein the screen has a higher reflectance for the two color light than for the peripheral light and a lower absorptivity for the two color light than for the peripheral light, and the screen has a color conversion layer for converting the ultraviolet ray to light of the remaining one color of the primary colors.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takayama (US Patent Number 5,715,083) discloses a screen for a color liquid crystal projector comprising a layer for reflecting light having a specific wavelength band and for transmitting light having a wavelength band other than the specific one, and a light absorbing layer.

Benton (US Patent Number 6,414,727) teaches a video projection holographic screen, system and method.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Magda Cruz
Patent Examiner
Art Unit 2851

July 21, 2005
